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ABSTRACT

The Tyler (Texas) Independent School District's Instructional Leadership System, which is based on the premise that effective leadership is the basis for the success of the instructional program, is described and evaluated in this report. The system is described in terms of administrative organization; management design; the system's basis in the effective schools research; data analysis; goal setting and planning; and evaluation. Significant gains in student achievement at the fifth grade level in 1983-84 and 1984-85 are reported, and these improvements are attributed to the systematic planning and supervision of the instructional program by the building principal under the Instructional Leadership System. Data are presented showing significant student achievement gains as principals and faculties became more proficient in assessing needs, setting common goals, establishing a cooperative school climate, monitoring student progress, and evaluating instructional activities on a regular basis. (KH)

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INSTRUCTIONAL LEADERSHIP SYSTEM RESEARCH REPORT

Dr. Jack L. Davidson, *Superintendent*

Margret A. Montgomery, *Director of Research*

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TYLER INDEPENDENT SCHOOL DISTRICT
TYLER, TEXAS

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INSTRUCTIONAL LEADERSHIP SYSTEM RESEARCH REPORT

AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS

1985 ANNUAL CONFERENCE

DALLAS, TEXAS

Dr. Jack L. Davidson, *Superintendent*
Margret A. Montgomery, *Director of Research*

TYLER INDEPENDENT SCHOOL DISTRICT
TYLER, TEXAS

MARCH 1985

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Adopting the basic premise that instruction of the student is the purpose for the District's existence and that effective leadership is the basis for the success of the instructional program, the Tyler Independent School District has initiated an Instructional Leadership System and organizational pattern designed to accomplish this objective.

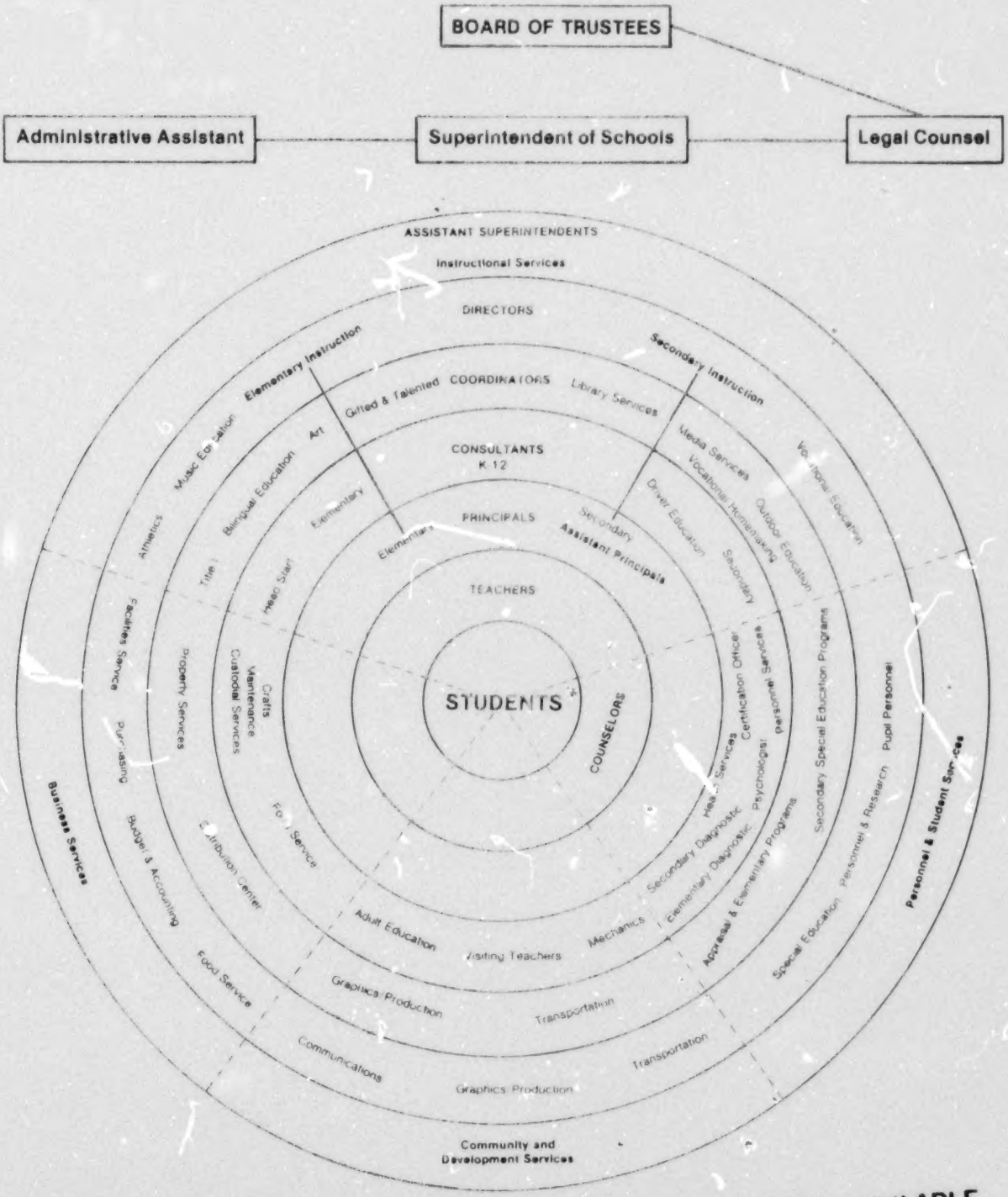
ADMINISTRATIVE ORGANIZATION

The chief function of a school district is to provide for the organization, operation, and administration of an adequate, economical, and effective educational program for the students it serves. To successfully operate and administer a school district of any size, an adequate organizational system must be instituted. The purpose of the organization is to provide the means for the personnel in the district to cooperate. It is necessary if a school system is to have a means of communication which will lead ultimately to the accomplishment of its objectives and to provide a decision-making process.

The Board of Trustees has expressed clearly its commitment not only to sound instructional procedures but also to a pattern of organization that emphasizes cooperation and teamwork. This commitment begins with the Board, the superintendent, and the administrative staff and is enhanced through the participation of faculty, student and parent advisory groups.

The Tyler administrative organizational pattern is more a change of focus and concentration than it is a change in structure. The purpose of the administrative organization is to enhance educational opportunities for students through real concentration on the needs of individual schools. The Instructional Leadership System is a systematic procedure for staff involvement and leadership by the principal in placing emphasis on students for the ultimate purpose of better instruction within each school and the entire district.

The focus of an organizational arrangement centers upon the end product, the student. This guides individuals within the organizational framework to direct their attention to activities which have as their goal the improvement of the learning process.



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DESCRIPTION

The organizational chart for the *Tyler Independent School District* can best be described as an all encompassing wheel with the student as the focal point or hub. Every decision and position surrounds this hub and has as its purpose the enhancement of the delivery process to the student.

The wheel is composed of six smaller disks, with titles, which illustrates levels of responsibility and job tasks. Each of these smaller disks is directly adjacent to a disk representing areas of direct contact. Positions represented on each portion of a disk are aligned to show, for the most part, lines of authority and supervision. Each disk should be envisioned as having the ability, when communication can be augmented, to rotate to a position of contact with another position in an adjacent disk.

The wheel is divided into four parts, representing the four major divisions of responsibility within the District, and headed by an assistant superintendent. This is intended to show the major areas which the District feels most directly effect the learning environment, curriculum, and instruction.

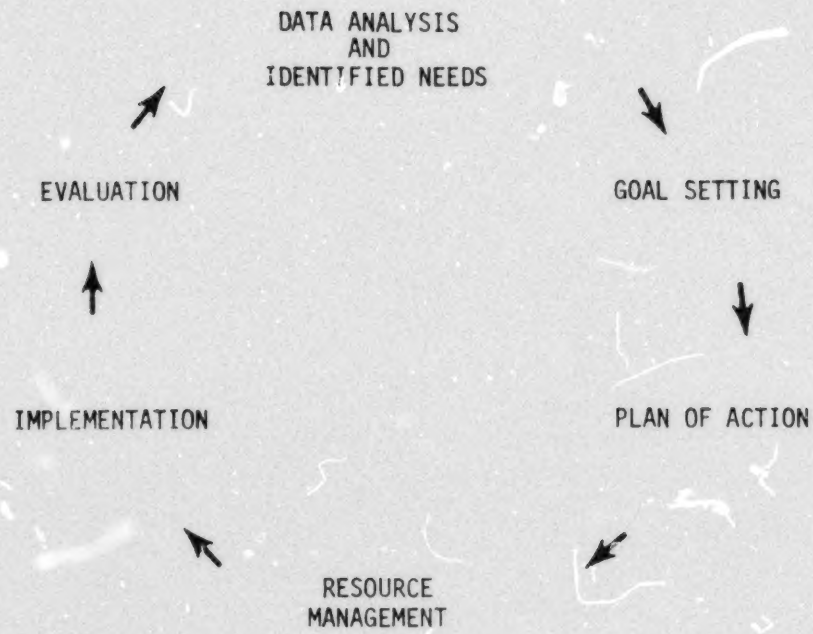
Operating policies and procedures are established to promote cooperation and interaction among the four divisions in order to strengthen and expedite decision making in the best interest of students.

The Superintendent, assisted by legal counsel, and an administrative assistant, is pictured in a position tangent to the entire wheel. From this position he is able to touch every aspect of the school structure.

The Board of Trustees is shown at a point external from the main body of the circle in its policy making role and, while not involved directly in the instructional process, effects the entire District through adoption of policies designed to enhance educational opportunities for all students.

Provision for appropriate divisions of responsibilities and delegation of authority enhance the effectiveness of any organization. This can only be accomplished when clear, authoritative lines are delineated to provide both limits and power to complete a task.

The administrative framework of a school district must provide those individuals which work within it a concise picture of the direction of the district as it relates to the student, and graphically convey the procedures for communication and decision making.



MANAGEMENT DESIGN

The Instructional Leadership System places the principal clearly in the position of the leader of instruction at the campus level. The system also establishes specific procedures for the involvement of the entire staff in the following steps:

- Analysis of data and identification of needs of the campus.
- Establishment of goals for the year.
- Development of a plan of action to accomplish the goals.
- Management of resources with particular emphasis on staff development.
- Implementation of the plan.
- Evaluation.

The management design consists of two levels of decision makers working cooperatively under a system whereby decisions are made and appropriate actions are synchronized to improve instruction. The building level group of decision makers consists of the principal serving as the instructional leader and teachers who have credibility within the building.

The district level decision makers consist of a group of central office personnel responsible for curriculum improvement who view decision making as a shared responsibility between the teaching and administrative staffs.

The coordination is directed through a common, annually cycled timeline with suggested activities for both groups.

While the building level committees follow the suggested timeline, the district level committee follows similar procedures for decision making based on an analysis of District data. The two groups meet together twice each year for coordination and direction.

Instructional Leadership System

GRAPHIC TIMELINE

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TIMELINE

JANUARY

The principal meets with the faculty for orientation to the Instructional Leadership System.

FEBRUARY

The principal directs the faculty in identifying and prioritizing program strengths and weaknesses through analysis of test results, program evaluations, and related data. The principal appoints a Building Committee and leads the Committee in goal setting and formulating a tentative Plan of Action for the coming year.

The needs, goals and a tentative Plan of Action are reviewed by the entire faculty for consensus.

MARCH

Representatives of each Building Committee, principals, and the Central Committee meet to discuss districtwide and individual school improvement needs, reach consensus on goals, and review the tentative Plan of Action.

APRIL

Action plans are finalized by Building Committee for the following year. Program designs, resources needed, inservice activities, and evaluation procedures are included in each plan.

The Plan of Action is reviewed by the entire faculty for consensus.

MAY

A copy of the building Plan of Action, requests for staff development and/or other support are submitted to the Central Committee by May 1.

The Central Committee reviews the requests for support and responds to each request during May.

JUNE / JULY

Leadership Conferences are conducted for administrators.

AUGUST

The principal initiates and directs the implementation of improvement plans with the assistance of the Building Committee.

SEPTEMBER

Process evaluation begins and continues through the year.

OCTOBER / NOVEMBER

The principal evaluates progress and the implementation process with entire faculty.

Representatives of the Building Committee and the Central Committee meet to evaluate implementation process, program action, and progress toward goals.

JANUARY

The principal directs the collection of test data, assessment surveys, program evaluations, and progress toward achievement of goals.

The principal reviews past year's goals and achievements with immediate supervisor as part of evaluation procedures.

THE PRINCIPAL AS THE INSTRUCTIONAL LEADER

LEADERSHIP

INSTRUCTIONAL FOCUS

HIGH EXPECTATIONS

SCHOOL CLIMATE

CONTINUOUS EVALUATION

EFFECTIVE SCHOOLS RESEARCH

The basis for instituting an Instructional Leadership System comes from recent research which defines certain characteristics of instructionally effective schools. One of the chief characteristics is the instructional leadership given at the campus level. Tyler has placed this responsibility on the building principal. The principal is not to be a "one-man team," but is to be the leading figure and provide leadership in developing a coordinated instructional program.

Leadership

To be truly effective the principal needs to be assertive in the role of instructional leadership. This leadership must lead to a unified effort on the part of the entire staff toward clearly established goals.

High Expectations

High expectations are a cornerstone for effective schools. The principal and staff help establish an appropriate learning environment when quality is a key goal for all activities conducted on the campus.

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Instructional Focus

A sharp focus on instruction should be evident when a person first steps onto the campus. The goals must be clear and easily understood and the school environment should reflect concentration on learning.

Measurement

How can we determine success, or a lack of it, if we do not assess our progress in a systematic way? We must monitor student progress on the essential elements and use that data to guide us in decision making for future operations.

DATA ANALYSIS

The system began with five months of training for all principals and instructional personnel. This training consisted of interpretation of data about the individual school and included achievement test results for the campus and a comparison of those results with district and national norms. Principals worked together with instructional personnel to determine the best methods to be used at campus levels in the various steps of the process.

A detailed script was prepared for the principal to lead the staff step by step through a session of data analysis. The script reviewed the vocabulary and basic concepts necessary to interpret test data.

The achievement test scores over the past three years were graphed for each school by grade level and/or subject tested. Information concerning student composition, staff profiles, instructional time and other information that directly affects learning was collected for each school. The information was charted, graphed and placed on transparencies by individual schools for the convenience of the principals (see Charts 1, 2, 3, and 4). Each principal led the faculty through an analysis of the data to determine prioritized campus needs.

At the conclusion of the data analysis session, the staff agreed on two or three strengths they wanted to maintain and/or build on. Then they prioritized their needs and selected three or four to focus on for the year. Each need was stated and the contributing factors were listed below the needs statement. (See Chart 5.) This information became the basis for goal setting (Chart 6) and planning for instruction (Chart 7) at the campus level.

The importance of this session and the commitment of the principal and staff to channel their efforts to meet commonly identified needs cannot be overemphasized.

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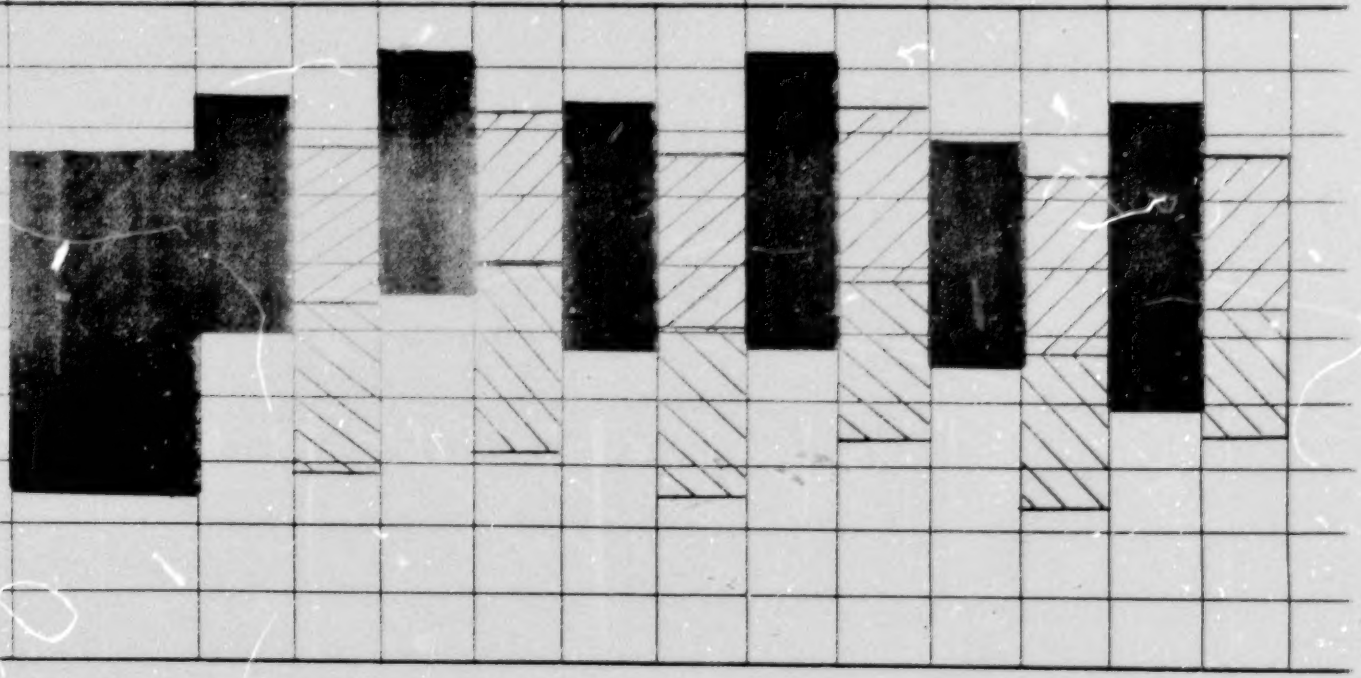
Tyler Independent School District

SCHOOL Woods Elementary GRADE Five

California Achievement Test Scores



NO. TESTED		144	1193	149	1266	144	1194	149	1266	144	1192	149	1265
3rd QUARTILE	75	86	77	92	82	85	76	93	83	78	73	85	77
MEDIAN	50	74	54	76	60	73	51	78	58	62	47	66	54
1st QUARTILE	25	50	28	55	32	47	26	48	34	45	23	41	33

DISTRICT DATA

SCHOOL DATA

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TYLER INDEPENDENT SCHOOL DISTRICT

STUDENT INFORMATION AND COMPOSITION FOR

SCHOOL Woods Elementary

	79-80		80-81		
Enrollment	696	15,695	671	15,677	
Percent Attendance	96.43	94.33	96.93	95.17	
Teacher-Pupil Ratio	1:24	1:21	1:23	1:21	
Low-Income Families	8.1%	35.7%	10.3%	38.9%	
Ethnic Distribution	648/51/6	9787/5406/636	610/49/3	9707/5414/753	
Mobility: Entered/Withdrawn	58/96	1979/2941	79/120	2099/3064	
	SCHOOL DATA	DISTRICT DATA	SCHOOL DATA	DISTRICT DATA	

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Chart 2

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TYLER INDEPENDENT SCHOOL DISTRICT

STAFF MANAGEMENT

SCHOOL Woods Elementary

	79-80		80-81	
No. of Teachers	29	864	26	875
No. of Support Personnel	7	229	8	238
No. of Teachers With Masters Degrees	14	369	16	376
No. of Teachers With More Than Five Years Experience	20	744	20	752
Total Substitute Days	226	7628	252	7309
No. of Discipline Incidents Recorded*	—	—	—	—
No. of Parent Conferences*	—	—	—	—
	SCHOOL DATA	DISTRICT DATA	SCHOOL DATA	DISTRICT DATA

*Data Entered on Campus

Chart 3

TYLER INDEPENDENT SCHOOL DISTRICT

Instructional Time Management

RATIO OF TIME ALLOTTED TO ACTUAL TIME ON TASK *

1981-82

School Woods Elementary	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Minutes per day of:					
Instruction	300 /	300 /	300 /	300 /	300 /
Reading					
Language Arts	180 /	180 /	120 /	120 /	120 /
Math	60 /	60 /	60 /	60 /	60 /
Social Studies	15 /	15 /	30 /	45 /	45 /
Science/Health	15 /	15 /	30 /	45 /	45 /
Physical Education	30 /	30 /	30 /	30 /	30 /
Minutes per week of:					
Art	45 /	45 /	45 /	45 /	45 /
Music	30 /	30 /	30 /	30 /	30 /

* EACH CLASS DETERMINED ACTUAL TIME ON TASK AND ENTERED DATA ON THE CHART

16

Chart 4

EXAMPLE

Chart 5

IDENTIFIED STRENGTHS / NEEDS *

SCHOOL: **Woods Elementary**

Identified strength / need:

The fifth grade math scores were below the national median in 1979-80 and showed little or no gain in 1980-81, while the District scores were slightly above the national median and showed improvement from 1979-80 to 1980-81.

Contributing factors:

1. Students are deficient in the mental math skills required for regrouping in two- and three-place multiplication.
2. Approximately one-third of the fifth grade students have difficulty solving thought problems involving multiplication.
3. Time on task in math classes is less than 60% of the time allotted.
4. Student mobility has increased.
5. Teacher absenteeism has increased.
6. Approximately 40% of the students have supplementary instruction in the home.
7. The fifth grade math periods are scheduled as a split section around lunch.
8. Three of the fifth grade teachers consider reading/language arts among their stronger teaching areas and rate math low as a preference.

* The information for this form is collected and compiled at the conclusion of the data analysis session. Needs are prioritized and only three or four are selected by the staff to focus on for the year.

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GOAL SETTING

The formulation of realistic and relevant goals is the single most important factor in the planning process of a school. The goals serve as a foundation for systematic and coordinated planning. Goal setting and planning are given direction by the needs identified as a result of a thorough data analysis.

Developing goals for the school

The principal serves in the leadership position for goal setting. The Building Committee, with input from the entire faculty and the principal, writes the goals and goal indicators for the school.

- The principal reviews one area of need and the contributing factors. Given this information, what should be the goal for the coming year? Where should the students be a year from now?

- When the principal and committee members agree, they continue with goal indicators. Goal indicators are the activities or events that occur in a school when goals are being achieved. Given this goal, what activities should be occurring in our school if this goal were being achieved? This is where the input from the faculty is most beneficial.

- The principal and faculty continue with each identified need area and develop related goals.

A draft copy of the goals and goal indicators is distributed to the faculty for their suggestions. The entire faculty meets with the principal to reach consensus on goals for the year.

EXAMPLE

WORKSHEET FOR GOAL SETTING — Chart 6

SCHOOL: **Woods Elementary**

Goal: By May 1983, the composite math achievement scores on the California Achievement Test will be maintained or increased from the current mean performance of the 71st percentile. The percentage of mastery on the CAT math objectives will increase.

Activities: (Goal Indicators)

1. Plan appropriate activities to develop two- and three-digit multiplication to mastery.
2. Prepare teaching aids that assist students in making the transition from concrete to abstract thinking in multiplication.
3. Collect practice activities for two- and three-place multiplication.
4. Schedule staff development for math teachers in the following areas:
   (a) Enrichment and remedial activities for mastery learning at fifth grade level
   (b) Specific teaching techniques to develop mental math
   (c) Meaningful practice activities
   (d) Specific methods to increase students' time on task in time allotted.
5. Design brief units of study that allow students to develop thought processes for problem solving.
6. Distribute math parent packets to encourage supplementary instruction at home.
7. Schedule math classes to eliminate disruptions and distractions.
8. Investigate the possibility of a parent volunteer program for the fifth grades.

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DISTRICT GOAL SETTING

After the goals and goal indicators are completed, one representative of the Building Committee is selected to attend the District meeting with the principal. The principal and teacher bring a copy of the goals and goal indicators, and a working copy of a plan of action to the meeting.

The purpose of the District level goal setting meeting is to compile and prioritize the goals established by the schools to determine the goals of the District. This procedure provides direction for the *Tyler Independent School District* based directly on the needs of the students as perceived by those individuals working directly with the teaching-learning process—the classroom teachers and the building principals. This is one of the major strengths of the Instructional Leadership System.

The activities (goal indicators) to direct the staff and students toward achievement of the goals serve as the framework for the written plan of action. As the representatives of the individual campuses discuss effective strategies, a collection of the best ideas and activities from within the District are available to modify and strengthen plans to improve the instructional process.

After the establishment of goals and exchange of ideas from across the District, teachers and principals return to the individual campuses to lead in the revision and completion of the plan of action for that campus.

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PLAN OF ACTION

Planning to improve the instructional program and to raise the level of productivity of students requires the cooperation of all people involved. The success of the implementation of a Plan of Action is influenced by the degree of ownership each faculty member assumes; therefore, it is important that the faculty has input into the structure of the plan.

After reviewing the needs, the contributing factors, goals, and information from the March meeting, the principal directs a session to refine ideas and specific strategies to improve instruction.

After the best ideas and strategies to accomplish the goals have been finalized, the Building Committee writes the final Plan of Action and information for each goal (see Chart 7). The final Plan of Action is reviewed and approved by the faculty.

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EXAMPLE

Chart 7

School Woods Elementary

PLAN OF ACTION

Date April 24

GOAL: By May 1983, the composite math achievement scores on the California Achievement Test will be maintained or increased from the current mean performance of the 71st percentile. The percentage of mastery on the CAT math objectives will increase.

Specific Activities	Inservice and Resources	Evaluation
1. Plan appropriate activities to develop two- and three-digit multiplication to mastery.	1. Identify specific objectives in CAT Management Guide and match activities to objectives. Leaders: Representation from McGraw-Hill and Wanda Trotter	1. List of activities matched to objectives.
2. Prepare Teaching aids that assist students in making the transition from concrete to abstract thinking in multiplication.	2. a. Review Piaget's developmental levels from concrete to abstract thinking capability. Leaders: Dr. E. Sowell, UT-Tyler. b. Prepare appropriate teaching aids to develop the sequential skills. Resource: $200 for commercial teaching aids.	2. Appropriate teaching aids located in 5th grade math classes.
3. Collect practice activities for two- and three-place multiplication.	3. Search related math book, workbooks, kits, etc. through the year. Make copies of selected activities for the building math file.	3. Practice activities in master math file.
4. Schedule staff development for math teachers in specific teaching techniques to develop mental math.	4. Leader: Dr. Jane Shaw, Math Education Instructor, TCU	4. Agenda on file

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EXAMPLE

Chart 8

REQUEST FOR ASSISTANCE
FROM THE CENTRAL COMMITTEE

School Woods Elementary **Date** April 24

A. STAFF DEVELOPMENT NEEDS

Specific Areas to be Addressed	Suggested Resources
1. Coordination of objectives and appropriate learning activities to bring fifth grade students to mastery of two- and three-digit multiplication.	1. We prefer to have a representative from McGraw-Hill who has expertise in this area.
2. Piaget's developmental levels from concrete to abstract thinking.	2. We request Dr. Evelyn Sowell from The University of Texas at Tyler. There would probably be a fee involved.
3. Developing competency in mental math.	3. Dr. Jane Shaw, Math Education Instructor at Texas Chrisitian University presented a workshop at CAMT on this topic. It was an excellent session.

B. OTHER RESOURCES REQUESTED

$200 for commercial teaching aids.

We will attempt to purchase supplies and commercial aids within our budget, but the price of math teaching aids for semi-concrete activities is beyond our limited budget this year.

PRINCIPAL'S SIGNATURE _____

PLEASE RETURN TO DIVISION OF INSTRUCTION BY MAY 1

EVALUATION

EVALUATION

Evaluation is an essential component of the Instructional Leadership System. The complete evaluation design provides information in the following areas:

Formative Evaluation

Formative evaluation is a continuous evaluation conducted through the year to determine to what extent the planned activities were completed and to what degree they were effective.

The formative evaluation is structured into the evaluation section of the Plan of Action and serves as an outline for the evaluation of those activities. The evaluation plan includes activities that demonstrate implementation is in the process. Systematic observations, check lists, surveys, and notes that activities were completed satisfactorily are used to evaluate programs.

A continuous system for monitoring student achievement is a critical part of the evaluation process. The principal is responsible for organizing a system whereby student achievement, activities and programs can be monitored and the results communicated. Regular feedback of progress are motivational factors for students and teachers. The process of systematic evaluation serves as a force within itself to improve instruction and raise the level of student productivity.

Summative Evaluation

Summative evaluation determines to what extent the goals were attained. It consists of measurements of student achievement from program implementation to completion.

Instruments used for product evaluation are:

- California Achievement Tests
- TABS Test
- Pre- and post-tests prepared by teachers
- Final test scores on District tests

Instructional Leadership System Evaluation

Instructional Leadership System evaluation is a cooperative effort by the principal and the staff. The principal leads the staff in evaluating the school's participation in the major elements of the Instructional Leadership System. The major elements are listed on the attached instrument in the order they occur on the annual timeline (See Chart 8).

The principal reviews the evaluation process annually with a member of the Central Committee.

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Chart 9

EXAMPLE

INSTRUCTIONAL LEADERSHIP SYSTEM
CYCLE OF ACTIVITIES AND EVENTS

School **Woods Elementary**

	Date Accomplished
1. Reviewed the Instructional Leadership System with faculty	January 15
2. Completed interpretion of test data and school information	February 2
3. Determined needs	February 2
4. Selected Buillding Committee	February 4
5. Established tentative goals	February 9
6. Framed a tentative Plan of Action	February 16
7. Obtained consensus from faculty	February 23
8. Selected representatives for Districtwide meeting	February 23
9. Attended Districtwide goal setting meeting	March 9
10. Finalized goals and Plan of Action	April 13
11. Reviewed goals and plan with faculty for consensus	April 20
12. Submitted final plans to Central Committee by May 1	April 30
13. Submitted request for staff development and support to Central Committee May 1	April 30
14. Participated in Administrative Leadership Conference	August 2-4
15. Implemented plans at the opening of the school year	August 23-24
16. Implemented process evaluation system	September 20
17. Evaluated progress and implementation process	October 20
18. Attended Districtwide evaluation meeting	November 16
19. Collected product and process data for annual evaluation	January 10
20. Reviewed the annual evaluation with a member of the Central Committee	January 17

TYLER INDEPENDENT SCHOOL DISTRICT
CALIFORNIA ACHIEVEMENT TEST RESULTS
Total Battery 1979-80 to 1984-85

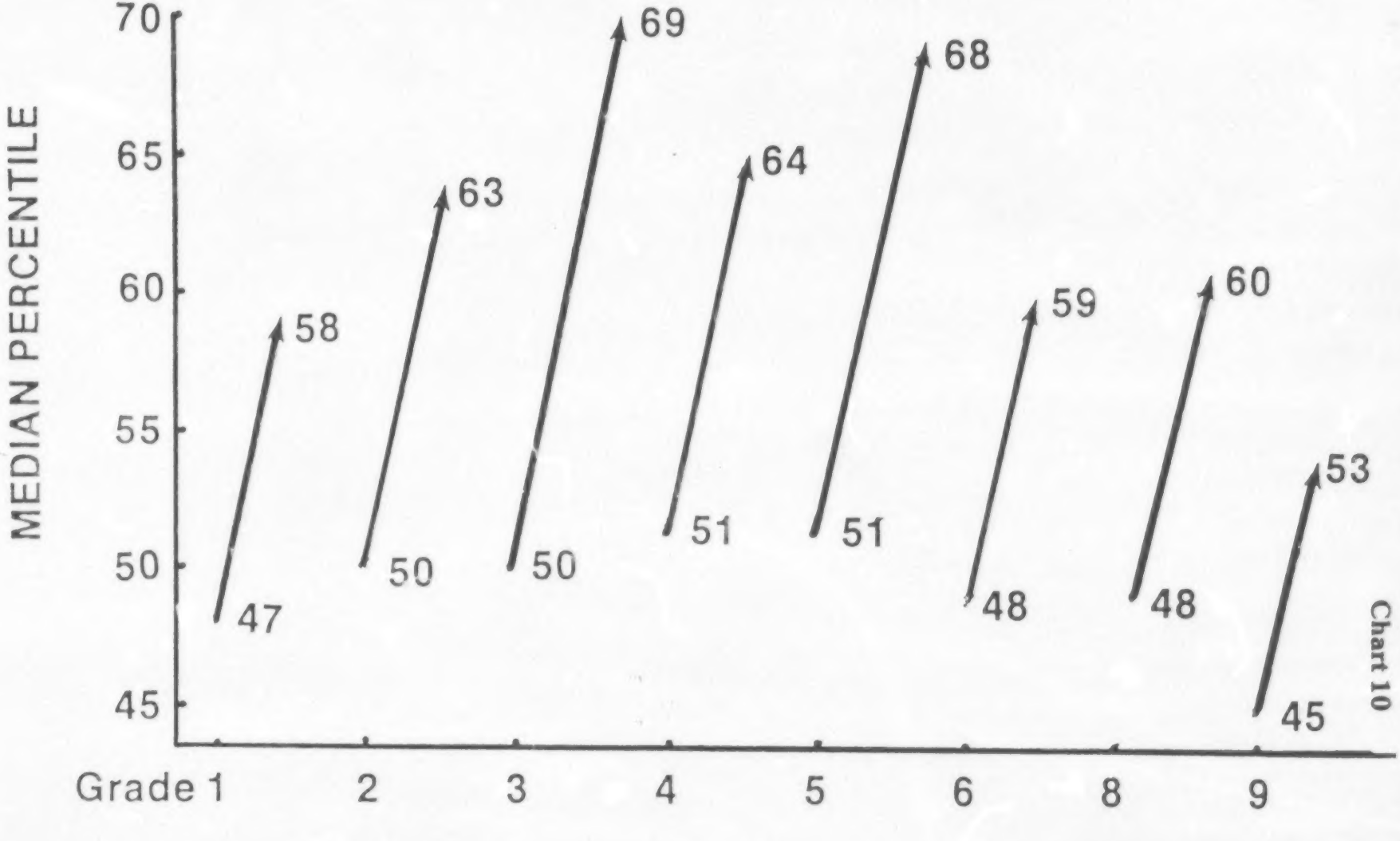
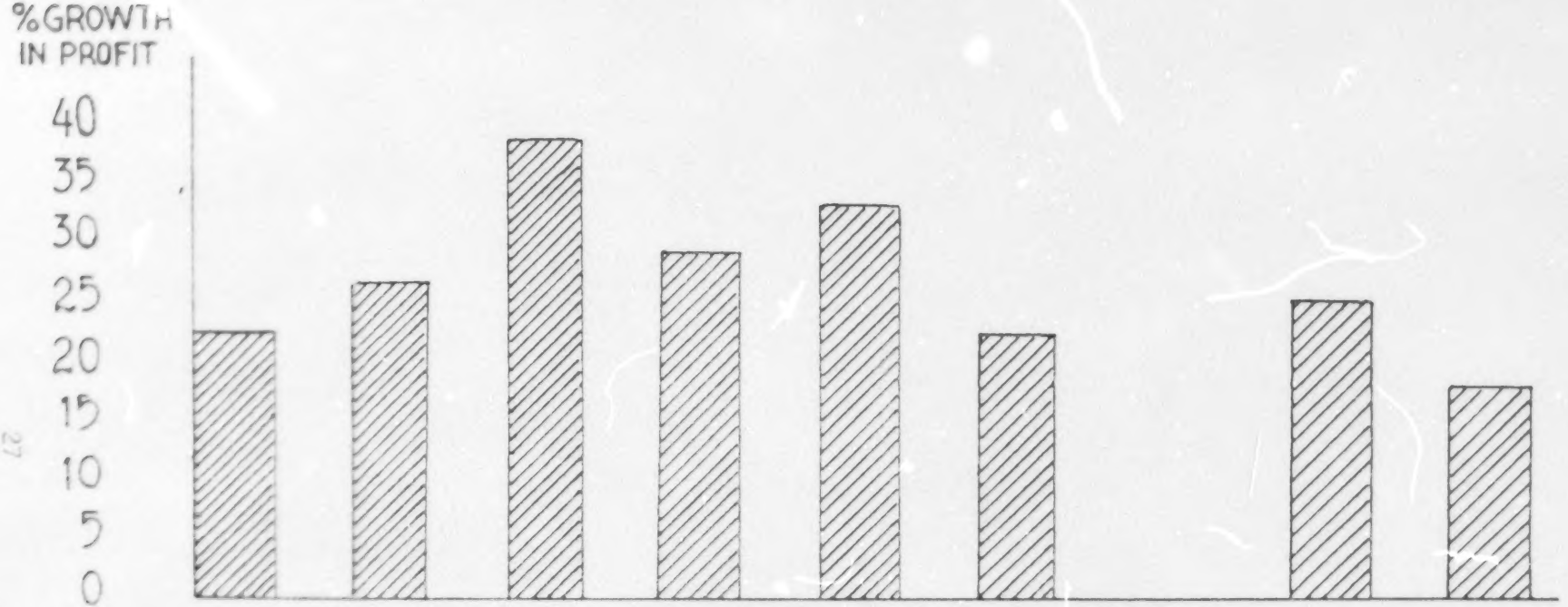


Chart 10

Percentage Growth 1979,'80-1984
by
grade levels and district averages



GRADE	1	2	3	4	5	6	7	8	9
SCORES	47-58 +11	50-63 +13	50-69 +19	50-64 +14	51-68 +17	48-59 +11	60	48-60 +12	45-53 +8
% PROFIT (GROWTH)	23%	26%	38%	28%	33%	23%		25%	18%

Average Percentile Growth... 13 percentiles
Average Percentage (Profit) Growth...26.75%

Chart 11

RESEARCH REPORT

The purpose of this research study was to determine the effect of the Instructional Leadership System as a management tool on student achievement in the Tyler Independent School District. The null hypothesis tested in this investigation was that there was no significant difference in achievement of students in any year since the Instructional Leadership System was implemented.

The principal's role in the instructional process has been the object of numerous research studies across the nation over the past ten years. One of the findings common in the more important studies is that instructional leadership by the principal has a positive impact on student achievement. Recent research studies summarized by Robinson and Block (1982:53) found the following:

> *Studies indicate that principals who are strong instructional leaders; who emphasize educational goals; who communicate high expectations for achievement to students, staff, and parents; who work to maintain a good learning environment; and who support the instructional process lead higher achieving schools.*

Goodlad (1979:346) wrote extensively while researching characteristics of effective schools and pointed to the principal as playing the key role in providing autonomy in the school unit itself; providing a sense of mission, identity, wholeness and ownership that pervades every aspect of the school's functioning; and providing the support, encouragement, and resources required for effective teacher performance.

The leadership skills common to the principals of schools with high academic student achievement are skills that are learned. The research studies concerning the behaviors of effective principals provide a base of knowledge that can be organized and sequenced into instructional models to assist less effective principals in developing their professional competencies and becoming more effective. Shoemaker and Fraser (1981:182) reviewed twelve research studies and among the concluding remarks stated the following:

> *If we can identify characteristics of administration that improve achievement, then, presumably, more precise inservice and preservice training programs for principals could be developed.*

The Instructional Leadership System is an instructional model used to assist in the development of competencies that effective principals have attained. Leadership behaviors identified as learned behaviors have been organized along an annual timeline and each component sequenced into a systematic and logical approach.

Experimental Design

Time was an important factor in the design of the experiment. In 1980, Dr. Jack L. Davidson, Superintendent, reviewed the concept of the Instructional Leadership System with the Board of Trustees. With their approval, the written model was developed and introduced to the administrative staff in August of 1981. All administrators attended regular training sessions before involving their staffs in the process in January of 1982. The full implementation began at the opening of the 1982-83 school year with the total concept in place, the written model completed, administrators trained to assume the instructional leadership role, and teachers involved at the campus level.

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In order to determine the effectiveness of the Instructional Leadership System on student achievement, fifth grade classes (ranging from 51-55 classes depending on enrollment) were selected for the study since the students had been in attendance under the program from the implementation until the present. The mean scale score of each fifth grade class was used as the unit measure. A one-way analysis of variance was used to determine if statistically significant gain in student achievement had been obtained in any year since the implementation of the leadership system.

Data Analysis

A baseline was established by averaging the mean scale scores of the fifth grade classes in 1979, 1980 and 1981. The achievement test scores of the fifth grade classes in the following years, 1982-83, 1983-84, and 1984-85, were measured against the baseline.

The one-way analysis of variance was applied to the mean scale scores by years of implementation against the baseline mean scale scores and there was a statistically significant difference at the .01 level of confidence (Table 1). In determining the location of the significant gain in student achievement, it was found that there was not a significant gain in student achievement the first year (1982-83) of implementation (Table 2). The second year (1983-84) the F ratio was significant at the .05 level of confidence (Table 3), and the third year (1984-85) the F ratio was significant at the .01 level of confidence (Table 4).

Results

The results indicate clearly that significant gains in student achievement at the fifth grade level in 1983-84 and 1984-85 may be attributed to the systematic planning and supervision of the instructional program by the building principal under the Instructional Leadership System. The progression of the statistically significant differences during the three years of implementation indicate that student achievement improved as principals and faculties became more proficient in assessing needs, setting common goals, cooperatively improving school climate, monitoring student progress and evaluating instructional activities on a regular basis.

The time element, a continuous period of six years, and a common district-wide testing program using the California Achievement Test were distinct advantages in the design of the experiment. Whether or not the continuous six-year testing with an achievement test from the same publishing company became a factor because of test familiarity and/or improved test-taking skills cannot be separated from the data. Test companies take precautions to eliminate such factors from the data to provide as true a test of student achievement as possible.

The test scores from the five years prior to the implementation of the Instructional Leadership System fluctuated around the same averages with no statistically significant gains. In all probability this pattern would have continued through subsequent years if the authority and responsibility for instructional leadership had not been placed on the building principal and training in a systematic and organized management system based on effective schools research had not implemented.

The Instructional Leadership System training model had a statistically significant effect on student achievement when used as a management tool by principals in the Tyler Independent School District. The gain in student achievement became increasingly more significant with each year of implementation. It appears that the Instructional Leadership System is an effective model for training principals in instructional leadership behaviors.

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Tyler Independent School District
Instructional Leadership System

Table 1

Years One, Two, and Three after Baseline

Source of Variation	Sums of Squares	Degrees of Freedom	Variance
Between	8,810.60	3	2936.87
Within	115,644.27	200	578.22
Total	124,454.87	203	F = 5.08
$F_{.05} \geq 3.89$	$F_{.01} \geq 6.76$		Significant at the .05 level

Tyler Independent School District
Instructional Leadership System

Table 2

Year One after Baseline

Source of Variation	Sums of Squares	Degrees of Freedom	Variance
Between	1,537.41	1	1,537.41
Within	48,665.61	100	486.66
Total	50,203.02	101	F = 3.16
$F_{.05} \geq 3.94$	$F_{.01} \geq 6.90$		Not Significant

Tyler Independent School District
Instructional Leadership System

Table 3

Year Two after Baseline

Source of Variation	Sums of Squares	Degrees of Freedom	Variance
Between	3,672.00	1	3,672.00
Within	57,907.96	100	579.08
Total	61,579.96	101	F = 6.34

$F_{.05} \geq 3.94$ $F_{.01} \geq 6.90$ Significant at the .05 level

Tyler Independent School District
Instructional Leadership System

Table 4

Year Three after Baseline

Source of Variation	Sums of Squares	Degrees of Freedom	Variance
Between	8,316.09	1	8,316.09
Within	59,188.67	100	516.89
Total	64,504.75	101	F = 14.80

$F_{.05} \geq 3.94$ $F_{.01} \geq 6.90$ Significant at the .01 level

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